DO VENDORS BENEFIT FROM PROMOTIONS IN A MULTI-VENDOR LOYALTY PROGRAM?

Matilda Dorotic [1] [2*]

Dennis Fok [3]

Peter C. Verhoef [1]

Tammo H. A. Bijmolt [1]

[1] University of Groningen, Faculty of Economics and Business, Marketing Department, P.O. Box 800, NL-9700 AV Groningen, The Netherlands

[2] University of Split, Faculty of Economics, Marketing Department, Matice hrvatske 31, 21000 Split, Croatia

[3] Erasmus University Rotterdam, Erasmus School of Economics, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands

[*] *Corresponding author.* Tel. +31503633439; Fax. +31503638252; *E-mail address:* m.dorotic@rug.nl (M. Dorotic)

DO VENDORS BENEFIT FROM PROMOTIONS IN A MULTI-VENDOR LOYALTY PROGRAM?

Abstract

In multi-vendor loyalty programs [MVLP] members frequently receive promotions intended to increase sales at the participating vendors. This study analyzes the effects of these promotions using aggregated transaction data of a large Dutch MVLP. Our research indicates no strong effects of loyalty program related promotions. We do, however, find an effect of individual promotions within the MVLP if multiple communication channels are used jointly to present the promotion. This is one of the first studies to investigate possible strategic benefits of coalitions within an MVLP. The evidence of coalition benefits is lacking, because we neither find stronger effects for joint promotions of several vendors relative to individual promotions, nor significant spillover effects of promotions across vendors (i.e. cross-vendor effects).

Keywords: Loyalty Programs, Multi-vendor Loyalty Program, Promotion Effectiveness, Joint Promotions, Cross-vendor Effects

1. INTRODUCTION

In Western economies more than 80 percent of adults participate in a loyalty program [LP], oftentimes in multiple, competing LPs (Clark 2008; Consumer Reports 2008). LP membership of US customers reached 1.8 billion in 2009, and members are on average enrolled in more than fourteen LPs, but remain active only in six of those (Ferguson and Hlavinka 2009). The main issue for LP managers has therefore become one of retention and engagement of existing members; rather than striving to enroll more members. However, limited evidence exists on how to engage customers once they have become LP members, which resulted in calls for more research in this area (Grewal and Levy 2007).

Personalized marketing communication through promotions targeted at LP members can be used to encourage the members' engagement (Blattberg et al. 2008:571; Kumar and Reinartz 2006). LP related promotions typically aim to increase the frequency and volume of purchases by rewarding LP members with additional loyalty points or discounts within a limited time period. Still, more research is needed on the effects of LP related promotions (Grewal and Levy 2007; Hardesty and Bearden 2009).

Program participation may be further encouraged in an LP that is offered by a coalition of multiple vendors, since such LPs tend to have a higher perceived value (Berman 2006; Capizzi and Ferguson 2005). A specific form of such an LP includes a coalition of companies, with the management of the LP run by a specialized operator independent of the coalition partners (Blattberg et al. 2008:578). Such coalitions are known as *multi-vendor loyalty programs* [hereafter MVLP] and comprise of partnerships of non-competing firms, usually in frequently purchased sectors (e.g. grocery, petrol, apparel, credit card-services). Nectar, Airmiles, FlyBuys and Payback are prominent examples of MVLPs around the world.

Since program members obtain loyalty rewards for purchases at each partner in the coalition, MVLPs provide members with advantages of convenience, faster point collection

and wider redemption options. LP coalitions allow vendors to expand their markets which increases firm profitability (Kopalle and Neslin 2003; Liu and Yang 2009), particularly when the different businesses are complementary. In addition, the coalition may provide strategic benefits through spillover effects of vendors' images and cross-selling opportunities (Lemon and von Wangenheim 2009; Varadarajan 1986). In particular, a joint presentation of vendors' promotions within an MVLP may increase the efficiency and effectiveness of the promotions. Furthermore, having one card for purchases at multiple vendors may encourage members to patronize vendors that belong to a coalition and use promotions at MVLP partners in order to collect loyalty rewards faster (Berman 2006). So far little research has investigated these coalition benefits across vendors within an MVLP.

In an analysis of longitudinal data of five prominent retailers within an MVLP, this study addresses two main research objectives. Firstly, we aim to investigate the effects of LP related promotions on focal vendor's sales in diverse retailing sectors. Secondly, we strive to study the existences of coalition benefits in the MVLP. In doing so, this is one of the first studies to investigate the joint promotion effects and cross-vendor effects within a typical MVLP.

2. THEORETICAL BACKGROUND

2.1 Effects of LP Related Promotions

In this study we differentiate between *LP rewards* and *LP related promotions*. The character of LP rewards is pre-committed by the LP design and dependent on the accumulated purchases (as in the typical example of buy-X-get-one-free LP rewards). LP related promotions, conversely, are short term promotional actions targeted at LP members, and cannot be foreseen by them. LP promotions aim to temporarily increase member's usage of the LP, by increasing LP patronage and spending. Typically, LP related promotions award LP

members with additional amounts of LP currency for purchases in one or more product categories within a promotional period. The additional amount of loyalty points is added to the regular amounts of points that could be collected on purchases in non-promotional periods (e.g. double amount of points on purchases during a promotional period). Such LP related promotions differ from "the classical" notion of sales promotions, because they are essentially not price promotions, but promotions related to the LP currency (loyalty points) and directed at the collecting behavior.

Little is known about the effectiveness of LP related promotions, particularly about its effects over time. Related studies on LP design primarily assessed the attractiveness of different types of reward incentives, ignoring the effects of short term promotions in LPs (Keh and Lee 2006; Kim et al. 2001; Kivetz 2005). In general, the design of LP incentives significantly influences program enrollment and usage (Demoulin and Zidda 2009; Leenheer et al. 2007; van Osselaer et al. 2004). LP participation, however, delivers mainly long-term benefits through delayed rewards that members may obtain for continuous purchases. Therefore, short term promotions can help to leverage firm's short term goals and encourage the members' engagement in LPs (Lewis 2004; Nunes and Dreze 2006b). Simulations by Lewis (2004) indicate that emailing an additional coupon (short-term promotion) would increase LP members purchase incidence rate, spending volume and average customer revenue, relative to the situation when only LP rewards are offered.

LP rewards and LP related promotions may, however, also increase LP members' sensitivity to incentives, which may divert attention away from the brand/firm. The consequence is that the reward may become the "primary reinforcement" in purchases, which consequently increases customers' spurious loyalty behavior (Dowling and Uncles 1997; Roehm et al. 2002; Rothschild and Gaidis 1981). This effect may be particularly pronounced

in MVLPs, due to an incongruence of LP benefits with the focal products and a division of loyalty across vendors (Dowling and Uncles 1997; Kivetz 2005).

The effects of LP related promotions on sales may depend on the volume (the number of mailings sent), the communication channel used (usually email or post) or the number of featured vendors (individual vs. joint promotions). An effect of the volume of a promotion is intuitively obvious. Larger volume promotions make offers salient to larger numbers of LP members which should have a direct positive impact on the effectiveness. Direct mails and e-mails are the most frequently utilized communication channels by MVLPs (Kemp 2006; Precision Marketing 2005). Integrated marketing communication literature advocates a higher effectiveness of integrating multiple communication channels (Naik and Raman 2003; Schultz 1996). This indicates that using multiple media to reach program members with the same promotion might be more effective than using only one medium. Finally, the effectiveness of individual relative to joint promotions is closely related to the coalition benefits, which are discussed next.

2.2. Coalition Benefits within Multi-Vendor Loyalty Programs

Coalition benefits seem particularly important for MVLPs, as they may provide significant benefits to participating vendors and an impulse to consumers to join the program. In particular, promotions in the MVLP may benefit from the coalition in two ways. First, promotions run jointly by multiple firm in the MVLP coalition may have a larger effect than individual promotions. Second, cross-vendor effects may occur through promotions of one vendor on the performance of other vendors in the program.

Opposing arguments exist in the literature regarding the effects of the joint relative to the individual presentation of sales promotions (Geylani et al. 2008; Simonin and Ruth 1998). Since joint offers feature several promotions across different partners they may induce

positive coalition effects through reinforcement of brand images and an increase in perceived value (Varadarajan and Rajaratnam 1986). On the other hand, the joint presentation of vendors increases the transparency of incentives across vendors which may foster comparison and may strengthen the importance of the incentives relative to the products (Dowling and Uncles 1997; Rothschild and Gaidis 1981).

An MVLP's promotion that features one vendor within a coalition will make the MVLP itself more salient, which could also be beneficial for other partners in the coalition (Bucklin and Sengupta 1993; Simonin and Ruth 1998). Hence, individual promotions of one vendor may affect the sales at other vendors through spillover effects of MVLP related promotions. This form of coalition benefits we label as *cross-vendor effects* of LP related promotions. Another rationale for the potential existence of the cross-vendor effects is that these promotions may induce faster collection of points, which may encourage members to save more points through purchasing at multiple vendors in the coalition (Kivetz et al. 2006; Nunes and Dreze 2006b; Sharp and Sharp 1997).

3. METHODOLOGY

3.1. Data description

To empirically assess own- and cross-vendor effects of sales promotions in an MVLP, we analyze data from a renowned MVLP in the Netherlands. This program spans retailers from various sectors (department stores, grocery retailing, apparel retailing, drug stores, liquor stores, DIY, electronics, petrol stations, etc). Program members collect loyalty points on their purchases at participating vendors. In general, for each euro spent a member receives one loyalty point (although policies of some vendors slightly vary over time). Collected points can be redeemed for various merchandise, entertainment or travel arrangements. Data is available for the largest five vendors within the scheme (see Table 1). All five vendors have

strong brand equity in their respective sectors and cannot be considered direct competitors of each other.

<TABLE 1 ABOUT HERE>

For each vendor, aggregate weekly data on performance is available for 141 weeks, from the beginning of year 2005 till the mid of 2007. To specify appropriate performance measures we use the rationale that successful marketing promotions would lead to increases in customer spending (Van Heerde and Bijmolt 2005). A customer's spending level directly corresponds to the number of loyalty points obtained on his/her purchase. Therefore, the performance of a vendor can be measured by the number of loyalty points issued in a certain week. Panel unit root tests show that (the log) of this performance measure is stationary over time, since the p-values corresponding to the Levin, Lin & Chu (2002) statistic and the Im, Pesaran & Shin (2003) W-statistic are indistinguishable from zero.

The LP operator sends sales promotion mailings to members with offers of the program's vendors. In these LP related promotions members are offered an additional amount of points for purchases in a certain category within a limited time period. To allow for a comparison of promotional and non-promotional periods, we do not include this additional amount of loyalty points in our performance measure. Our variable "number of loyalty points issued" is thereby corrected for the promotions.

The promotions differ in volume, duration, communication channel and the number of vendors featured. The volume of a promotion refers to the number of mailings sent per promotion. Using a median split per vendor, the promotions were grouped into large volume and small volume promotions. The promotion duration differed substantially both within and across vendors. Some promotions lasted only for 1 week while few promotions spanned over 10 weeks, with 18-weeks being the largest duration of a promotion. As for the utilized communication channel, vendors may use e-mails, post mailings or a combination of e-mails

and post. Finally, mailings may feature promotions of a single vendor (individual promotions) or promotions of more than one vendor (joint promotions).

Some descriptive statistics across vendors in the analyzed database are presented in Table 1. The table shows that our data spans in total 185 promotions, of which 127 were individual promotions and 58 were joint promotions. Furthermore, there are differences in the promotions used by the vendors. Note that in this paper we are mainly interested in general patterns and effect sizes, but we will allow for vendor-specific effects in our modeling approach.

3.2. Model

3.2.1. Effects of LP Related Promotions

To model changes in vendor *j*'s sales to program members in week *t* we analyze the number of loyalty points issued by vendor *j* in a week *t* (LP_{jt}). The logarithmic transformation of the dependent variable ($\ln LP_{jt}$) facilitates comparison of effect sizes across vendors. Note that effect sizes should in this case be interpreted in percentage terms. Our model relates $\ln LP_{jt}$ to the vendor's baseline performance, the vendor's individual promotion(s) in this period, the vendor's joint promotion(s) and to the promotion(s) of other vendors in the program in the same period.

A sales promotion may last for several weeks. Hence, it is important to account for possibly declining effects over time. The effect of a promotional mailing is expected to decrease over time due to forgetting and because there is a limit to how much a consumer can consume in response to a promotion (Blattberg et al. 1995). We therefore specify an exponential decay function for the effect of the time that has passed since the beginning of the promotion.

3.2.2. Own Effects and Coalition Benefits

The changes in the number of loyalty points issued by vendor j in week t may be affected by individual and joint promotions of vendor j and cross-vendor effects of promotions of other vendors ($s \neq j$) in the MVLP. The individual promotions of vendor j are denoted by IM_{kjt}, $k=1,\ldots,K_j$, where $IM_{kjt}=1$ if the k-th individual promotion by vendor j is valid in week t, otherwise IM_{kjt} equals 0, and K_j is the total number of individual promotions of vendor j in the observation period. The mailings with the joint promotions that feature vendor j (among promotions of other vendors) are denoted by JM_{ijt}, with equivalent specifications as for individual promotions. We specify the following model for the number of points issued:

$$\text{(1)} \qquad \ln \text{LP}_{jt} = \alpha_j + \sum_{k=1}^{K_j} \beta_{kjt} IM_{kjt} + \sum_{i=1}^{I_j} \varphi_{ijt} JM_{ijt} + \sum_{s \neq j} \sum_{k=1}^{K_s} \delta_{kst} IM_{kst} + Z_{jt}' \tau_j + \varepsilon_{jt}.$$

where α_j denotes the baseline performance for vendor j in terms of points issued, β_{kjt} gives the effect of individual promotion k by vendor j in week t, φ_{ijt} gives the effect of joint promotion i and δ_{kst} denotes the cross-vendor effect of the k-th promotion by vendor s ($s \neq j$) in week t on the performance of vendor j. Since it is possible to have more than one promotion in a given week, the effects of all promotions are summed across all available promotions in week t, for own as well as for cross-vendor effects within the LP. The indicator variables IM_{kjt}, JM_{ijt} and IM_{kst} ascertain that the appropriate promotions are selected in (1). The effects of promotions are specified to depend on time t and on the specific promotion k or i. We discuss this dependence in detail in the next subsection.

The effects of individual and joint promotions of vendor j on the performance of the vendor create the *own effects* of sales promotions (β_{kjt} and φ_{ijt}). Since vendor j belongs to the coalition in the MVLP, coalition benefits may occur due to synergies within the coalition. The *coalition benefits* within the MVLP would be seen in higher effectiveness of joint relative to individual vendor promotions ($\varphi_{ijt} > \beta_{kjt}$) and/or positive cross-vendor effects ($\delta_{kst}>0$).

Equation 1 also contains the vector Z_{jt} which contains a number of additional regressors. Firstly, since some vendors changed their policy of issuing loyalty points to the program members, dummy variables for this policy change are included for these specific vendors. For example, a vendor decided to reduce the number of loyalty points offered per Euro spent (before the policy change a vendor offered one loyalty point for every Euro spent, while after the change one loyalty point is awarded for every two Euros spent). The corresponding dummy is zero initially and becomes one after the policy change. Secondly, the performance of some vendors is subject to seasonal variation. For those vendors seasonal adjustment dummies are included in Z_{jt}. The seasonality in these cases corresponds to: a) potential seasonal peaks in sales before holidays or seasonal clearouts (e.g. Christmas, Easter etc.), and b) potential seasonal dips in sales during holiday weeks. The appropriate seasonal factors to use were selected on a vendor-by-vendor basis. Finally, ε_{jt} gives the error term for vendor j in week t. The exact specification of this error term is discussed in a later subsection.

3.2.3. Moderating Effects on Promotion Effectiveness

The effect of promotion k by vendor j in week t may depend on the duration of that promotion (time since the issuance) and on other idiosyncrasies of a particular promotion (its volume or communication channel used). Therefore, the own effect of promotion k by vendor j at time t on the number of loyalty points is specified as:

$$\beta_{kjt} = (e^{\gamma_1 T_{kjt}})(\theta_j + \gamma_2 LV_{kj} + \gamma_3 MP_{kj} + \gamma_4 MEP_{kj}) . \quad (2)$$

The first part of the right-hand side in equation (2) indicates the effect of time. T_{kjt} is the number of weeks that has passed since the beginning of promotion k by vendor j in week t (T_{kjt}=0,1,2,…). The corresponding parameter (γ_1<0) gives the decay rate. The exponential decay function together with γ_1<0 implies that the duration effect proportionally declines over time and therefore does not change sign.

The three variables on the right hand side of equation (2) are dummy variables indicating whether the promotion is of a specific size and medium. The corresponding parameters are $\gamma_2,\ldots, \gamma_4$. The dummy variables are specified as follows:

LV_{kj} = promotion k by vendor j has a large volume (larger than the median promotion of the same vendor);

MP_{kj} = promotion k by vendor j uses the post-only medium;

MEP_{kj} = promotion k by vendor j uses both the post and email mediums;

The parameter θ_j denotes a vendor-specific effect. This vendor-specific effect captures possible differences in the promotion effects across vendors (e.g. due to differences in brand equity across vendors). The effects of the above-mentioned characteristics of promotion are all relative to this vendor-specific effect. The parameter θ_j can also be interpreted as a benchmark effect for vendor j. In case all the promotion dummies are zero, equation (2) implies that the effect of the promotion in the first week equals θ_j. This setting for the dummy variables corresponds with small promotions that are sent via email. As we are primarily interested in overall effects of the MVLP (rather than in particular effects of one promotion on one vendor), we restrict the coefficients of the dummies across vendors.

The effects of joint promotions are specified analogous to equation (2), with the difference that no joint promotions were sent only through post, so the effects of email and combined channels are assessed for joint promotions. Due to space limitation we do not state the exact equation here.

In line with the effects of promotions of the vendor itself, for the *cross-vendor* effect of promotion k by vendor s at time t on the performance of vendor j we specify:

$$\delta_{kst} = (e^{\gamma_1 T_{kst}})(\varpi_s + \pi_2 LV_{ks} + \pi_3 MP_{ks} + \pi_4 MEP_{ks}) . \quad (4)$$

Although we allow for a different impact of the promotion characteristics, for reasons of parsimony, we impose the same decay rate as for the own effects.

3.2.4. Full Model

To deal with possible autocorrelation, we explicitly model the serial correlation in the error terms. We specify autoregressive processes of order 1 [AR(1)] for the error term as:

(5) $$\varepsilon_{jt} = \rho_{1j}\varepsilon_{jt-1} + \varepsilon^{*}_{jt},$$

The error term ε_{jt}^{*} is assumed to be independent and identically distributed. The combination of equations (1) with (5) gives a model that appropriately deals with autocorrelation without affecting the interpretation of the original parameters. Combining specified equations (1) and (5) gives:

(6)

$$\ln LP_{jt} = \alpha_j + \sum_{k=1}^{K_j}\beta_{kjt}IM_{kjt} + \sum_{i=1}^{I_j}\varphi_{ijt}JM_{ijt} + \sum_{s\neq j}\sum_{k=1}^{K_a}\delta_{j,kst}IM_{kst} + Z_{jt}'\tau_j +$$
$$\rho_{1j}(\ln LP_{jt-1} - \alpha_j - \sum_{k=1}^{K_j}\beta_{kjt-1}IM_{kjt-1} - \sum_{i=1}^{I_j}\varphi_{ijt}JM_{ijt} - \sum_{s\neq j}\sum_{k=1}^{K_a}\delta_{j,kst-1}IM_{kst-1} - Z_{jt-1}'\tau_j) + \varepsilon^{*}_{jt}$$

For estimation purposes, we combine equation (6) with the definitions of the effect sizes, as given in (2), (3) and (4) for the points issued. This results in a system of equations, whose parameters are estimated using Iterative Seemingly Unrelated Regression (SUR) with sequential updating of weighting matrices and coefficient iterations (Zellner 1962).

4. RESULTS

4.1. Effects of Vendor's Sales Promotions on Spending Patterns

For most of the five vendors, we find that LP related promotions do not have a significant impact on sales to program members, that is, on the number of loyalty points issued (see Tables 2 and 4). The benchmark promotions (small direct sales promotions sent by email) have a significant impact on the performance measure only for the department store (vendor 5). This may suggest that retailers with relatively larger assortment benefit more from own direct sales promotions in the MVLP.

<TABLE 2 ABOUT HERE>

Moreover, the results in Table 2 show that the effectiveness of vendor's own promotions does not differ significantly with the volume of promotion. Large volume promotions do not have a significant larger effect than smaller volume promotions. The only significant effect of promotions is found for the promotions that use multiple communication channels. Using an integrated communication through email and post channel (direct mailing) gives a significantly larger effect of promotions on the number of loyalty points issued. Across the analyzed vendors, the joint usage of the email and post channels in individual sales promotions increases the effect on the number of loyalty points issued in the first week of a promotion with about 13 percentage points. This effect cannot be attributed to a larger part of the program members being reached with multiple channels as we explicitly correct for the volume of the promotion. However, the same effect is not present in joint promotions. The decay rate indicates decreasing effectiveness (contribution) of a promotion over time (Table 2) [4].

As an example, Figure 1 graphically illustrates the contributions of different communication channels for vendor 5. The effect of sales promotions that used email and post (Email&Post series) is considerably higher than the effect of promotions using the post only (the Post Only series) or using email only (the Email Only (benchmark) series). However, the effects of a promotion decline rapidly after the issuance week and die out already in the second week.

<FIGURE 1 ABOUT HERE>

Table 3 shows the impact of the adjustment variables as well as the adjusted R^2 per equation. The results show a satisfactory explanatory power of the individual equations in the model.

[4] The fact that the estimated decay parameter is quite large but not significantly different from zero may be counter-intuitive. The decay rate of -2.661 implies that there only is a direct effect. Note that exp(-2.661*t) equals 1 for t=0 and approximately 0 for t=1,2,3…. Due to the exponential transformation the function of the (generalized) sum of squared errors in the SUR procedure is almost flat in this region of the decay rate. This fact results in a relatively large standard error and a small t-value for this decay rate.

Interestingly, only very substantial changes in issuance policies (e.g. giving half of a loyalty point per euro spent) have a significant (negative) impact on vendors' issuance of loyalty points. Vendors 3 and 4, which introduced less drastic policy changes, did not experience negative effects on their approximated sales. Jointly, these results indicate overall habitual (inertia) behavior of existing LP members who tend to abide with their regular purchase patterns.

<TABLE 3 ABOUT HERE>

4.3. Coalition Benefits within Multi-Vendor Loyalty Programs

The analysis shows no evidence of the coalition benefits within the MVLP. If coalition synergies would occur, on aggregate levels across all vendors, joint promotions should have a significant impact on member's spending patterns, and this impact should be larger than the impact of individual promotions. The comparison of the results for individual and joint promotions in Table 2 indicates that joint promotions are less effective than promotions that feature solely the focal vendor (individual promotions). Moreover, there are no significant cross-vendor effects of promotions of coalition partners on the performance of the focal vendor (see Table 4). It seems that neither volume nor communication channel significantly affects cross-vendor effects of promotions of other vendors in the coalition on the performance of focal vendor (in Table 4).

<TABLE 4 ABOUT HERE>

5. DISCUSSION

The overall findings of this study indicate that the vendors' sales promotions in general do not change the regular patterns of members' purchase behavior. That is, MVLP members use their cards in regular purchases and collect loyalty rewards for it. However, they generally do not change their purchase behavior to respond to LP promotions. Indeed, Leenheer et al. (2007) also found that neither the discount nor the savings feature of LPs

significantly affect members' behavior once they are enrolled in an LP. The lack of significant impact on members' behavior may also be due to a low perceived value of promotions (Consumer Reports 2008; Nunes and Dreze 2006a). If a promotion is not particularly valued by customers, it will not induce customers to change their usual patterns of behavior to respond to the promotion. The most common direct sales promotions in LPs feature additional loyalty point promotions, in which for example members may obtain 300 additional loyalty points for 30 euros spent at the focal vendor (note, one loyalty point is approximately one euro). Such a promotional offer may not provide sufficient value to make members purchase more than planned or to attract members who do not usually purchase at the focal vendor. This may be especially true for purchases of petrol, electronics or DIY goods. We do, however, find that the effectiveness of individual promotions within the MVLP is enhanced if multiple communication channels are used jointly to present a promotion. In this way, we find support for the effectiveness of integrated marketing communication (Naik and Raman 2003; Schultz 1996).

A particularly important dimension of MVLPs concerns the coalition benefits between program partners. Our findings indicate no empirical support for the existence of significant coalition benefits between vendors in an MVLP. Joint promotions that feature offers of several vendors in the coalition are relatively less effective than promotions that feature individual vendors. The reason may be that instead of reinforcing the usage of the program at several vendors to collect points faster, joint offers promote comparison across deals and a division of purchases across vendors (Dowling and Uncles 1997). In addition, the cross-vendor effects are not substantial. Given the limited effectiveness of marketing promotions on own performance measures, the insignificance of cross-vendor effects is to be expected, since cross effects should be smaller than the own promotion effects (Leeflang et al. 2008).

6. RESEARCH LIMITATIONS

This study analyzed a single MVLP and although its design and vendor types represent the typical multi-vendor scheme, replications of this study are needed in order to reach general conclusions. Our database provided aggregate performance measures per vendor. Individual data on customer behavior would allow for important additional insights. Firstly, we could not assess differences in behavior of LP members versus non-members. The behavior of both groups of customers has important implications on vendors' performance (Van Heerde and Bijmolt 2005). Secondly, aggregate measures cannot explain the heterogeneity that exists across members in the MVLP. Finally, while we assessed the effectiveness of promotions, we could not say anything about their efficiency due to a lack of cost data.

Table 1. *Descriptive statistics of promotions and vendors*

	Retail sector	**No. of individual promotions**	**No. of joint promotions**	**Most frequent promotion duration (weeks)**	**Most frequent medium**
Vendor 1	Grocery	2	4	2-3	Email
Vendor 2	Electronics	n.a.	16	2 & 4	Email
Vendor 3	DIY	35	16	2	Post
Vendor 4	Petrol	46	16	8-9	Post
Vendor 5	Department stores	44	6	1	Email+Post

Table 2. *Effects of individual vs. joint promotions on vendors' performance*

	Log Number Of Loyalty Points Issued			
	Individual promotions		**Joint promotions**	
Explanatory Variable	Est.	t-value	Est.	t-value
Decay rate[1]	-5.850	-0.027	-5.850	-0,027
Own Effects:				
Benchmark for grocery retailer	-0.010	-0.322	-0.014	-0.437
Benchmark for electronics retailer	n.a.	n.a.	0.033	0.652
Benchmark for DIY retailer	0.001	0.025	0.011	0.364
Benchmark for petrol retailer	-0.023	-1.370	-0.0004	-0.025
Benchmark for department stores	0.214***	3.629	0.054	0.550
Large Volume	0.021	1.518	-0.025	-1.056
Post Only	0.016	1.008	n.a.	n.a.
Email+Post	0.129***	2.468	0.038	1.450

***p<.01; ** p<.05; * p<.10, n.a. vendor did not use the selected category in the observed period

[1] The decay rate is restricted to be equal for individual and joint promotions.

Table 3. *Vendor-specific adjustment effects and explained variance*

Vendor/ Variable	***Log Number of Loyalty Points***				
	V1	V2	V3	V4	V5
Policy change	n.a.	-0.53***	-0.04	-0.03	-0.83***
Seasonal peaks	0.21***	0.61***	0.25***	n.a.	1.03***
Seasonal dips	-0.09***	n.a.	-0.32***	-0.12***	-2.97***
Lag term	0.68***	0.28***	0.45***	0.73***	0.37***
Adj. R2	0.62	0.63	0.49	0.62	0.81

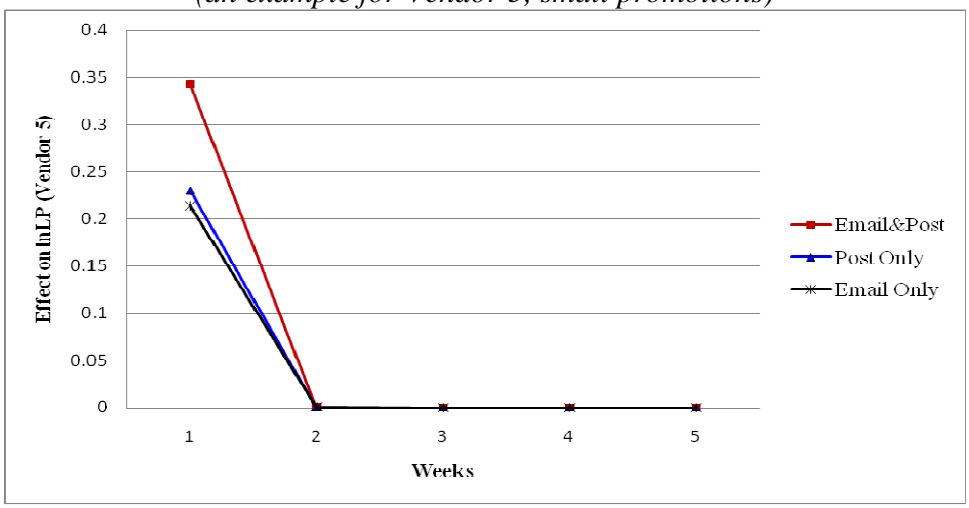
***p<.01; ** p<.05; * p<.10, n.a. = not applicable

Table 4. *Cross-vendor effects of individual promotions*

Cross-Vendor Effects	***Log Number of Loyalty Points***	
Explanatory Variable	Est.	t-value
Benchmark for Vendor 1	-0.023	-0.852
Benchmark for Vendor 2	n.a.	n.a.
Benchmark for Vendor 3	-0.008	-0.567
Benchmark for Vendor 4	0.003	0.226
Benchmark for Vendor 5	0.008	0.597
Large Volume	0.006	0.631
Post Only	0.003	0.221
Email+Post	-0.008	-0.533

***p<.01; ** p<.05; * p<.10, n.a. vendor did not use the selected category in the observed period

Figure 1. *Effects of different communication channels on the loyalty points issued over time (an example for Vendor 5, small promotions)*



REFERENCES

Berman, B. (2006). Developing an Effective Customer Loyalty Program, *California Management Review*, 49 (1), 123 -148.

Blattberg, R. C., Briesch, R. & Fox, E. J. (1995). How Promotions Work, *Marketing Science*, 14 (3), 122-132.

Blattberg, R. C., Kim, B.-D. & Neslin, S. A. (2008). *Database Marketing: Analyzing and Managing Customers*. New York, NY: Springer.

Bucklin, L. P. & Sengupta, S. (1993). Organizing Successful Co-Marketing Alliances, *Journal of Marketing*, 57 (2), 32-46.

Capizzi, M. T. & Ferguson, R. (2005). Loyalty Trends for the Twenty-First Century, *Journal of Consumer Marketing*, 22, 72-80.

Clark, N. (2008). Divided Loyalties. (Cover Story), *Marketing (00253650)*, 28-29.

Consumer Reports (2008). Points Mania, *Consumer Reports*, 73, 12-13.

Demoulin, N. T. M. & Zidda, P. (2009). Drivers of Customers' Adoption and Adoption Timing of a New Loyalty Card in the Grocery Retail Market, *Journal of Retailing*, 85, 391-405.

Dowling, G. R. & Uncles, M. (1997). Do Customer Loyalty Programs Really Work?, *Sloan Management Review*, 38 (4), 71 - 82.

Ferguson, R. & Hlavinka, K. (2009). The Big Sort: The 2009 Colloquy Loyalty Marketing Census, in *White Paper Series*: Loyalty One/Colloquy.

Geylani, T., Inman, J. J. & Ter Hofstede, F. (2008). Image Reinforcement or Impairment: The Effects of Co-Branding on Attribute Uncertainty, *Marketing Science*, 27 (4), 730-744.

Grewal, D. & Levy, M. (2007). Retailing Research: Past, Present, and Future, *Journal of Retailing*, 83 (4), 447-464.

Hardesty, D. M. & Bearden, W. O. (2009). Consumer Behavior and Retailing, *Journal of Retailing*, 239-244.

Im, K. S., Pesaran, M. H. & Shin, Y. (2003). Testing for Unit Roots in Heterogeneous Panels, *Journal of Econometrics*, 115 (1), 53-74.

Keh, H. T. & Lee, Y. H. (2006). Do Reward Programs Build Loyalty for Services? The Moderating Effect of Satisfaction on Type and Timing of Rewards, *Journal of Retailing*, 82 (2), 127-136.

Kemp, E. (2006). Nectar Targets Mailings by Purchasing Behaviour, *Marketing*, 07/05/2006, 4-4.

Kim, B. D., Shi, M. & Srinivasan, K. (2001). Reward Programs and Tacit Collusion, *Marketing Science*, 20 (2), 99-120.

Kivetz, R. (2005). Promotion Reactance: The Role of Effort-Reward Congruity, *Journal of Consumer Research*, 31 (4), 725-736.

Kivetz, R., Urminsky, O. & Zheng, Y. H. (2006). The Goal-Gradient Hypothesis Resurrected: Purchase Acceleration, Illusionary Goal Progress, and Customer Retention, *Journal of Marketing Research*, 43 (1), 39-58.

Kopalle, P. K. & Neslin, S. A. (2003). The Economic Viability of Frequency Reward Programs in a Strategic Competitive Environment, *Review of Marketing Science*, 1, 1-39.

Kumar, V. & Reinartz, W. (2006). *Customer Relationship Management: A Databased Approach*: John Wiley & Sons, Inc.

Leeflang, P. S. H., Selva, J. P., Van Dijk, A. & Wittink, D. R. (2008). Decomposing the Sales Promotion Bump Accounting for Cross-Category Effects, *International Journal of Research in Marketing*, 25 (3), 201-214.

Leenheer, J., van Heerde, H. J., Bijmolt, T. H. A. & Smidts, A. (2007). Do Loyalty Programs Really Enhance Behavioral Loyalty? An Empirical Analysis Accounting for Self-Selecting Members, *International Journal of Research in Marketing*, 24 (1), 31-47.

Lemon, K. N. & von Wangenheim, F. (2009). The Reinforcing Effects of Loyalty Program Partnerships and Core Service Usage a Longitudinal Analysis, *Journal of Service Research*, 11 (4), 357-370.

Levin, A., Lin, C. F. & Chu, C. S. J. (2002). Unit Root Tests in Panel Data: Asymptotic and Finite-Sample Properties, *Journal of Econometrics*, 108 (1), 1-24.

Lewis, M. (2004). The Influence of Loyalty Programs and Short-Term Promotions on Customer Retention, *Journal of Marketing Research*, 41 (3), 281-292.

Liu, Y. & Yang, R. (2009). Competing Loyalty Programs: Impact of Market Saturation, Market Share, and Category Expandability, *Journal of Marketing*, 73 (1), 93-108.

Naik, P. A. & Raman, K. (2003). Understanding the Impact of Synergy in Multimedia Communications, *Journal of Marketing Research*, 40 (4), 375-388.

Nunes, J. C. & Dreze, X. (2006a). Your Loyalty Program Is Betraying You, *Harvard Business Review*, 84 (4), 124-+.

Nunes, J. C. & Dreze, X. (2006b). The Endowed Progress Effect: How Artificial Advancement Increases Effort, *Journal of Consumer Research*, 32 (4), 504-512.

Precision Marketing (2005). Airmiles Builds Collector Levels Via Direct Drive, *Precision Marketing*, 17 (18), 6-6.

Roehm, M. L., Pullins, E. B. & Roehm, H. A. (2002). Designing Loyalty-Building Programs for Packaged Goods Brands, *Journal of Marketing Research*, 39 (2), 202-213.

Rothschild, M. L. & Gaidis, W. C. (1981). Behavioral Learning-Theory - Its Relevance to Marketing and Promotions, *Journal of Marketing*, 45 (2), 70-78.

Schultz, D. E. (1996). The Inevitability of Integrated Communications, *Journal of Business Research*, 37 (3), 139-146.

Sharp, B. & Sharp, A. (1997). Loyalty Programs and Their Impact on Repeat-Purchase Loyalty Patterns, *International Journal of Research in Marketing*, 14 (5), 473-486.

Simonin, B. L. & Ruth, J. A. (1998). Is a Company Known by the Company It Keeps? Assessing the Spillover Effects of Brand Alliances on Consumer Brand Attitudes, *Journal of Marketing Research*, 35 (1), 30-42.

Van Heerde, H. J. & Bijmolt, T. H. A. (2005). Decomposing the Promotional Revenue Bump for Loyalty Program Members Versus Nonmembers, *Journal of Marketing Research*, 42 (4), 443-457.

van Osselaer, S. M. J., Alba, J. W. & Manchanda, P. (2004). Irrelevant Information and Mediated Intertemporal Choice, *Journal of Consumer Psychology*, 14 (3), 257-270.

Varadarajan, P. R. (1986). Horizontal Cooperative Sales Promotion - a Framework for Classification and Additional Perspectives, *Journal of Marketing*, 50 (2), 61-73.

Varadarajan, P. R. & Rajaratnam, D. (1986). Symbiotic Marketing Revisited, *Journal of Marketing*, 50 (1), 7-17.

Zellner, A. (1962). An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias, *Journal of the American Statistical Association*, 57 (298), 348 - 368.